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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,861	09/30/2005	Charles Roland Wolf	9052-229	6068

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EXAMINER	
HIRIYANNA, KELAGINAMANE T	
ART UNIT	**PAPER NUMBER**
1633	
MAIL DATE	**DELIVERY MODE**
10/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,861	WOLF ET AL.	
	Examiner	Art Unit	
	Kelaginamane T. Hiriyanna	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2005*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28 and 30-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-28 and 30-36* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.
In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

The inventions as claimed are classified into following groups:

I. Claims 1-28 and 34 drawn to a method of monitoring progression of a xenograft in a non-human host animal by implanting with cells that were modified before implantation.

II. Claims 1-28 and 34 drawn to a method of monitoring progression of a xenograft in a non-human host animal by implanting with cells that were modified after implantation.

III. Claims 30 and 33 drawn to a gene construct and a cell line.

IV. Claims 35 and 36 drawn to a kit comprising a reporter cell/system.

The inventions listed as Groups I-V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

a) A prior art of record exists regarding the common technical feature linking the claims 1-28 and 34-36 (Chaudhuri T. et al (2001, Gynecologic Oncology 82:581-589)

Method of monitoring progression of a Xenograft in a non-human host animal comprising:

(i) genetically modifying or engineering a cell before or after implantation into an animal so as to incorporate at least one reporter molecule and/or reporter gene and/or reporter agent into said cell;

(ii) implanting said modified cell into said host animal and allowing a xenograft to grow for a sufficient period of time; and

(iii) measuring at least one parameter of a selected biochemical/

physiological response associated with the reporter molecule or reporter gene.

b) Claims 30-33 are not linked to claims 1-28 and 34-36 as to form a single general inventive concept under PCT Rule 13.1.

Hence restriction as indicated is warranted.

The mode of operation and the effects in each of the above inventions I-IV as indicated above are thus distinct and different from the other. The invention as whole thus lacks unity under PCT rule. Therefore, a search and examination for the patentability of the above inventive groups together would generate an undue search burden on the examiner. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species:

Should Group I or Group II be elected from above, the

(a). Applicant is required chose a single species of primary cell derivation source among the recited in claim 3 i.e., normal tissue or tumor or immortalized / established cell line.

(b). Applicant is required chose a single species of reporter molecule among the recited in claim 4 i.e. protein or an antigen or an enzyme or an enzyme substrate or a fluorescent agent or a chemiluminescent agent or a chromogenic agent or a radionuclide.

(c). Applicant is required chose a single species of reporter gene among the recited in claim 5 i.e., chloramphenicol-acetyltransferase or β13-galactosidase or β-glucuronidase or luciferase or beta-galactosidase or green fluorescent protein or secreted alkaline phosphatase (SEAP) or major urinary protein (MUP) or human chorionic gonadotrophin (hCG).

(d). Applicant is required chose a single species of agent among the recited in claim 6 i.e protease or kinase.

(e). Applicant is required chose a single species of host animal used among the recited in claim 15 i.e., (i) immunosuppressed by a method comprising administration of appropriate immunosuppressant agents or an immunocompromised strain or is or immunologically intact and wherein the implanted modified cell is synergistic with the host animal.

(f). Applicant is required chose a single species of parameters monitored among the recited in claim 19 i.e., reporter cell numbers or cell cycle modulation or mitotic fraction or cell differentiation or angiogenesis or hypoxia or cell death by necrosis or cell lysis or apoptosis or oxidative stress or DNA damage or mitochondrial function or membrane perturbation or GSH depletion or receptor-mediated toxicity or enzyme inhibition or cofactor availability or pH or osmotic change or perturbation of calcium homeostasis or cell differentiation or protein turnover or ubiquitination or protein misfolding or effects on intracellular signalling pathways or receptor interactions or effects on gene transcription or translation or protein stability or hormone or growth factor receptor modulation or peroxisome proliferator-activated receptor modulation or intracellular signal transduction pathways or MAP kinase or phosphatase signaling or p53 signalling or ras signaling or induction of drug resistance mechanisms or drug delivery or drug bystander effects.

(g). Applicant is required chose a single species of reporter gene expression reporting among the recited in claim 22 i.e., transcriptionally or post-transcriptionally.

(h). Applicant is required chose a single species of reporter gene promoters among the recited in claim 23 i.e., vascular endothelial growth factor (VEGF) or nitric oxide synthetase (iNOS) promoter or haemoxygenase-1 (HO-1) promoter or cyclo-oxygenase-

2 (COX-2) promoter or transglutaminase promoter or Peg3/pwl promoter or 14-3-3 protein promoter or a GADD 153 promoter.

(i). Applicant is required chose a single species of consequence of protease activity among the recited in claim 24 i.e., translocation of a cytoplasmic protein to the nucleus or from membrane-bound form to secreted form or protein cleavage, or activation of a pro-enzyme or transcription factor or deactivation of an active enzyme or transcription factor or secretion into the blood or excretion into urine.

(j). Applicant is required chose a single species of biochemical/physiological response associated with the reporter molecule among the recited in claim 27 i.e., by the non-invasive assay is in excreted body products or by bioluminescence measurement or by blood pressure measurement or by transcutaneous oxygen tension measurement or by nuclear magnetic resonance measurement or by positron emission tomographic measurement or by an invasive assay for blood or by xenograft reporter products.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Kelaginamane Hiriyanna Ph.D.*, whose telephone number is **(571) 272-3307**. The examiner can normally be reached Monday through Friday from 9 AM-5PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Joseph Woitach Ph.D.*, may be reached at **(571) 272-0739.** The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). When calling please have your application serial number or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. For all other customer support, please call the USPTO call center (UCC) at (800) 786-9199.

Kelaginamane T. Hiriyanna

SUMESH KAUSHAL, PH.D.
PRIMARY EXAMINER
10/1/07